



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

(Attorney Docket No. 1515)

In re the Application of:

Yat-Sang Hung et al.

Serial No.: 09/702,486

Conf. No.: 9822

Filed: October 31, 2000

**For: METHOD AND APPARATUS
FOR ABBREVIATED DIALING
IN A SUBSCRIBER TERMINAL**

Group Art Unit 2643

Examiner: Alexander Jamal

APPEAL BRIEF

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P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Dear Sir:

This Appeal Brief is submitted pursuant 37 C.F.R. § 41.37, within two months from the Notice of Appeal filed on July 7, 2005. The Office is authorized to charge the large entity Appeal-Brief fee (\$500.00) to Deposit Account No. 210765.

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Table of Contents

I.	Real Party in Interest	1
II.	Related Appeals and Interferences	1
III.	Status of Claims.....	1
IV.	Status of Amendments.....	1
V.	Summary of Claimed Subject Matter	1
VI.	Grounds of Rejection to Be Reviewed on Appeal.....	3
VII.	Argument.....	3
	Claims on Appeal.....	Appendix A

I. Real Party in Interest

The real party in interest is Sprint Spectrum L.P., to which this invention is assigned.

II. Related Appeals and Interferences

Applicant is not aware of any related appeals or interferences.

III. Status of Claims

Claims 1-9, 14-18, and 21-24 are pending and rejected. Claims 10-13 and 19-20 were cancelled. A clean set of the pending claims is attached as Appendix A.

IV. Status of Amendments

Applicant filed an Amendment After Appeal on September 1, 2005, correcting several typographical errors in the claims in order to put the claims in better condition for consideration on appeal.

V. Summary of Claimed Subject Matter

There are six independent claims: claims 1, 5, 15, 21, 22, and 24. Claims 1, 5, and 24 are each directed to a subscriber terminal that includes logic arranged to carry out abbreviated dialing functions, and claims 15, 21, and 22 are each directed to a method for providing abbreviated dialing in a subscriber terminal.

Each of the independent claims includes the functions of receiving an incomplete or abbreviated set of digits entered by a user (i.e., not a complete telephone number), determining whether the entered digits by a user match digits at the end of any telephone number stored in a local phone book, and, *if* the determination is that the entered digits do not match digits at the end of any telephone number in the phone book, *then* automatically pre-pending digits to the entered digits so as to produce a composite telephone number. Further, all of the independent claims other than claim 24 also include the function that *if* the determination is that the entered

digits match digits at the end of a telephone number in the phone book, *then* a call is initiated to that number.

These features are clearly understood from Applicant's specification, which explains that, when a user dials an abbreviated set of digits into a subscriber terminal, (a) the subscriber terminal will search a locally stored phone book to look for a telephone number whose last digits match the digits dialed by the user, and (b) if the subscriber terminal thereby determines that the entered digit sequence does not match the ending digits of any entry in the phone book, then the subscriber terminal will automatically pre-pend a stored set of digits to the entered digit sequence so as to establish a composite number. (See, e.g., page 6, lines 1-3; page 7, line 22 – page 8, line 4).

Moreover, Figure 4 of the application as filed illustrates that a determination is made as to whether an abbreviated set of digits entered by a user matches the last digits of a phone book entry (see block 64) and, (a) if the determination is that the entered digits do not match the last digits of any phone book entry, then a predefined digit sequence is added to the entered digits to generate the composite number (see blocks 74, 76, 80 and 82), but (b) if the determination is that the entered digits match the last digits of a given phone book entry, then the full number listed in that phone book entry is used to initiate the call (see blocks 90 and 84).

Advantageously, the claimed invention allows a user to simply enter into a subscriber terminal any abbreviated set of digits that does not match the end of any number in the locally stored phone book, and to have the subscriber terminal automatically convert that abbreviated set of digits into a full telephone number by pre-pending a stored set of digits. As a practical example of this, assume the phone numbers at a user's place of business all begin with the area code and prefix 913-890, and assume the user's phone book contains just the numbers 913-890-

1234, 913-890-4567, and 312-432-9876. Assume further that one of the use's colleagues at work has the extension 5656. With the benefit of the present invention, the user could then simply enter the digits 5656 (for example) and, in response to determining that the digit sequence 5656 does not match the end of any number stored in the user's phone book, the subscriber terminal can automatically pre-pend the digits 913-890 to the entered digits 5656, so as to produce the composite number 913-890-5656. The system can then initiate a call to that composite number.

The invention thereby provides an enhanced abbreviated dialing function that does not require the entered digits to match the end of a number in the phone book, and in fact requires the entered digits to *not* match the end of any number in the phone book as a condition to triggering pre-pending of stored digits.

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1-9, 18-18, and 21-24 stand rejected under 35 U.S.C. § 103 as being obvious over a combination of U.S. Patent No. 6,345,095 (Yamartino) and U.S. Patent No. 6,292,557 (Gabara).

VII. Argument

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce an adequate *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. *See, e.g., In re Rinehart*, 531 F.2d 1048 (CCPA 1976). The *prima facie* case of obviousness is composed of three elements, the first of which is a suggestion or motivation to modify a prior art reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). The suggestion or motivation to make the claimed combination must be found in the prior art, and may not be based on the applicant's disclosure. *Id.* In other words, "[i]n determining the propriety of the Patent Office

case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016 (CCPA 1972).

The Examiner erred in rejecting the claims as being obvious over a combination of Yamartino and Gabara, because the combination does not disclose or suggest each and every function recited in any of the pending claims. At a minimum, for instance, although Yamartino and Gabara each teach matching a set of digits to a digit sequence and establishing a composite telephone number, neither Yamartino nor Gabara teaches the claimed function of pre-pending digits *in response to a failure of an entered abbreviated set of digits to match digits at the end of any telephone number in a phone book*.

Yamartino teaches a system in which, when a user dials a number, the system looks up in a database to determine if the area code and prefix of the number are valid and/or to determine if other area codes could be used instead (in an area overlay scenario, for instance). If the system successfully finds a viable area code and/or prefix in the database, the system may then add that area code and/or prefix to the dialed number (possibly in place of a dialed area code and/or prefix). Thus, Yamartino teaches adding digits when it successfully finds information in the database, whereas, Applicant's claimed invention involves adding digits upon *failure of the entered digits to match* digits at the end of any telephone number in the phone book.

Gabara does not make up for this deficiency of Yamartino. At best, Gabara teaches adding a default area code to a dialed number in response to the exchange prefix *at the beginning of an entered 7-digit number* not matching any exchange prefix in a prefix/area code directory. However, pre-pending digits in response to a determination that digits *at the beginning of an*

entered number do not match numbers in a database is not what is recited in Applicant claims. Applicant's claims recite pre-pending digits upon failure of the entered digits to match digits at the end of any number in the phone book.

In the final office action and in the subsequent advisory action, the Examiner suggested that the Yamartino and Gabara references should be combined in a stepwise manner so as to achieve Applicant's claimed invention. In particular, the Examiner asserted that (i) according to Yamartino, a system would first determine that a complete entered telephone number (i.e., area code, exchange, and subscriber number in combination) does not match any number in a database, and (ii) according to Gabara, the system would then determine that the exchange prefix of the entered telephone number does not match an exchange prefix in an area code directory, and the system would then responsively pre-pend an area code to the entered digits. (See pages 7-8 of the final office action; pages 2-3 of the advisory action.)

In an effort to justify this stepwise combination, the Examiner asserted that Gabara teaches performing the pre-pending action in response to failure of a database search, and so it would make sense to apply Gabara's pre-pending function in response to Yamartino's failure to find a complete entered telephone number (including a subscriber number) in a database. (See the advisory action, at pages 2-3).

In essence, then, the Examiner appears to have argued that Gabara's teaching of pre-pending in response to a particular search failure is broad enough to suggest pre-pending in response to most any other search failure as well – and particularly in response to the search failure described at column 7, lines 35-67, of Yamartino. Yet Gabara's disclosure is not so broad. Gabara teaches pre-pending only in response to a particular search failure, namely, a failure of

the exchange prefix *at the beginning of an entered 7-digit number* to match any exchange prefix in a prefix/area code directory.

Furthermore, even if we follow the Examiner's line of reasoning, Applicant's claimed invention would not result from combining Yamartino and Gabara in the manner suggested by the Examiner. In particular, the search failure on which the Examiner relies in Yamartino is a failure to find a complete entered telephone number (including subscriber number) in a database. But the search failure recited by Applicant's claims is a failure of an abbreviated set of digits entered by a user to match digits at the end of any telephone number in a database (phone book). Thus, the Examiner's proposed combination of Gabara and Yamartino would not involve pre-pending in response to an entered abbreviated set of digits not matching digits at the end of any telephone number in a phone book as presently claimed.

Moreover, the act of pre-pending in response to a finding that an entered telephone number is not in a phone book (as the Examiner suggested Gabara would do (see final office action, at page 7)) does not amount to pre-pending in response to an entered *abbreviated* set of digits *not matching digits at the end* of any number in a phone book as presently claimed. In fact, an entered telephone number could fail to match any number in a phone book simply because the entered telephone number has a prefix that does not match the prefix of any number in the phone book, regardless of whether the entered digits match *ending digits* of any number in the phone book.

Any suggestion to consider whether an entered abbreviated set of digits match digits at the end of any number in the phone book comes only from Applicant's claims, not from Yamartino and Gabara. Consequently, the Examiner's obviousness rejection is improper, not only because the cited references do not suggest Applicant's claimed invention and because the

combination would not result in Applicant's invention, but also because the Examiner has applied impermissible hindsight analysis, using Applicant's claims as a blueprint to modify the prior art. *See Holdosh v. Block Drug Co.*, 786 F.2d 1136, 1143 (Fed. Cir. 1986) ("the references must be viewed without the benefit of hindsight vision afforded by the claimed invention.")

Indeed, if a person of ordinary skill level were to combine the teachings of Yamartino and Gabara, the person would achieve something very different than Applicant's claimed invention. At best, a system resulting from the combination would operate to (i) determine that digits *at the beginning* of an entered number are invalid or not present and (ii) responsively use (or propose to use) other digits at the beginning of the entered number. In particular, using the teachings of Yamartino, the system would determine that an area code (and perhaps exchange code) *at the beginning* of the number is invalid or not present and would responsively propose using one or more predefined area codes (and perhaps exchange codes) to produce a valid telephone number. (See Yamartino at column 9, lines 11-35; column 9, line 64 – column 10, line 15). Similarly, using the teachings of Gabara, the combination would determine that an exchange code *at the beginning* of the entered number is not found in an exchange code directory and would responsively add a default area code to the number. (See Gabara, at column 6, lines 32-36).

In addition, to the extent Applicant's claims recite both a determination function and *two possible resulting functions, selected depending upon the result of the determination function*, the cited combination further fails to suggest the claimed invention. As noted above, all of Applicant's claims except claim 24 require *determining whether* entered digits match digits at the end of any telephone number in a phone book *and* (i) *if so*, then dialing out a call to the telephone number, or (ii) *if not*, then automatically pre-pending digits to the entered digits, to produce a composite number, and dialing out a call to the composite telephone number. The cited

combination of Yamartino and Gabara fails to teach the recited determining function followed by the recited functions that depend on the result of the determination.

Under M.P.E.P. § 2143, a *prima facie* case of obviousness of a claim over a combination of references can be established only if the references disclose or suggest every limitation of the claim. Because the Examiner has not established that the combination of Yamartino and Gabara discloses or suggests at least the function of pre-pending digits to an entered abbreviated set of digits in response to a determination that the entered abbreviated set of digits does not match the digits at the end of any number in the phone book, the Examiner has failed to make out a *prima facie* case of obviousness of Applicant's claims over Yamartino and Gabara.

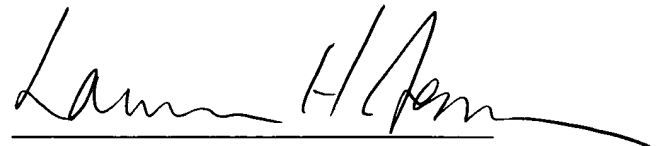
Applicant has demonstrated that the rejections of claims 1-9, 14-18, and 21-24 are in error as a matter of law. Applicant therefore requests reversal of the rejections and allowance of all pending claims in the application.

Respectfully submitted,

**MCDONNELL BOEHNEN
HULBERT & BERGHOFF LLP**

Date: September 6, 2005

By:

A handwritten signature in black ink, appearing to read 'Lawrence H. Aaronson', written over a horizontal line.

Lawrence H. Aaronson
Reg. No. 35,818

APPENDIX A
PENDING CLAIMS

1. (Previously presented) A subscriber terminal comprising, in combination:
 - a processor;
 - a memory;
 - a phone book stored in the memory, the phone book defining a plurality of telephone numbers;
 - at least one digit sequence stored in the memory; and
 - a translation routine executable by the processor (a) to receive digits entered by a user, (b) to determine whether the digits entered by the user represent an incomplete set of digits, and (c) in response to a determination that the digits entered by the user represent an incomplete set of digits:
 - (i) to make a determination of whether the digits entered by the user match digits at an end of any telephone number defined by the phone book,
 - (ii) if the determination is that the digits entered by the user match digits at an end of a telephone number defined by the phone book, to initiate a call to the telephone number, and
 - (iii) if the determination is that the digits entered by the user do not match digits at an end of any telephone number defined by the phone book, to automatically add one of the at least one digit sequence stored in the memory to the digits entered by the user so as to establish a composite telephone number, and to initiate a call to the composite telephone number.

2. (Original) The subscriber terminal of claim 1, further comprising a setup routine executable by the processor to prompt the user to specify the at least one digit sequence, to receive the at least one digit sequence, and to responsively store the at least one digit sequence in the memory.

3. (Original) The subscriber terminal of claim 2, wherein the subscriber terminal is a wireless subscriber terminal.

4. (Original) The subscriber terminal of claim 3, further comprising a Send button, wherein the translation routine is executed by the processor after the user enters digits and presses the Send button.

5. (Previously presented) A subscriber terminal comprising, in combination:
a processor;
a memory;
a phone book stored in the memory, the phone book defining a plurality of telephone numbers;
at least one digit sequence stored in the memory; and
a translation routine executable by the processor to receive digits entered by a user, and to determine whether the digits entered by the user represent an abbreviated number, and, in response to a determination that the digits entered by the user represent an abbreviated number:

(a) to make a determination of whether the digits entered by the user match digits at an end of any telephone number defined by the phone book,

(b) if the determination is that the digits entered by the user match digits at an end of a telephone number defined by the phone book, to initiate a call to the telephone number, and

(c) if the determination is that the digits entered by the user do not match digits at an end of any telephone number defined by the phone book, to automatically prepend a given one of the at least one digit sequence stored in the memory to the digits entered by the user so as to establish a composite telephone number, and to initiate a call to the composite telephone number.

6. (Original) The subscriber terminal of claim 5, wherein the subscriber terminal is a wireless subscriber terminal.

7. (Original) The subscriber terminal of claim 5, further comprising an abbreviated dialing setup routine executable by the processor to prompt the user to specify the at least one digit sequence, to receive the at least one digit sequence, and to responsively store the at least one digit sequence in the memory.

8. (Original) The subscriber terminal of claim 5, further comprising a Send button, wherein the translation routine is executed by the processor after the user enters digits and presses the Send button.

9. (Original) The subscriber terminal of claim 5, wherein the subscriber terminal is a landline subscriber terminal.

10-13. (Cancelled)

14. (Previously presented) The subscriber terminal of claim 5, further comprising a selection routine executable by the processor to determine a length of the abbreviated number entered by the user and to use the length as a basis to select the given one of the digit sequences to prepend to the digits entered by the user.

15. (Previously presented) A method for providing abbreviated dialing in a subscriber terminal, the subscriber terminal including a processor and a memory, and including a phone book stored in the memory for containing a plurality of telephone numbers, the method comprising:

executing first logic to prompt a user to specify one or more sequences of digits, and to receive one or more sequences of digits, and to responsively store one or more sequences of digits in the memory, each sequence of digits having a respective length; and

executing second logic to receive digits entered by a user, to determine whether the digits entered by the user represent an abbreviated number, and, in response to a determination that the digits entered by the user represent an abbreviated number:

(a) to make a determination of whether the digits entered by the user match digits at an end of any telephone number contained in the phone book,

(b) if the determination is that the digits entered by the user match digits at an end of a telephone number defined by the phone book, to initiate a call to the telephone number, and

(c) if the determination is that the digits entered by the user do not match digits at an end of any telephone number defined by the phone book, to automatically prepend one of the sequences of digits stored in the memory to the digits entered by the user so as to establish a composite telephone number, and to initiate a call to the composite telephone number.

16. (Original) The method of claim 15, wherein the subscriber terminal is a wireless subscriber terminal.

17. (Original) The method of claim 15, wherein the subscriber terminal is a landline subscriber terminal.

18. (Previously presented) The method of claim 15, wherein the subscriber terminal further comprises a Send button, and wherein the second logic is executable by the processor after a user enters digits and presses the Send button.

19-20. (Cancelled)

21. (Previously presented) A method for providing abbreviated dialing in a subscriber terminal, the subscriber terminal including a processor and a memory, and including a

phone book stored in the memory for containing a plurality of telephone numbers, the method comprising:

- prompting a user to specify at least one digit sequence to be stored in the memory;
- receiving the at least one digit sequence specified by the user;
- storing the at least one digit sequence specified by the user in the memory;
- receiving an abbreviated number entered by a user;
- making a determination of whether the abbreviated number entered by the user matches digits at an end of any telephone number contained in the phone book;

- if the determination is that the abbreviated number entered by the user matches digits at an end of a telephone number contained in the phone book, initiating a call to the telephone number; and

- if the determination is that the abbreviated number entered by the user does not match digits at an end of any telephone number contained in the phone book, (a) determining a length of the abbreviated number entered by the user, (b) using the length of the abbreviated number as a basis to select one of the at least one digit sequence stored in the memory, (c) automatically prepending the selected digit sequence to the abbreviated number entered by a the user so as to establish a composite telephone number, and (d) initiating a call to the composite telephone number.

22. (Previously presented) A method for providing abbreviated dialing in a subscriber terminal, the subscriber terminal including a processor, a memory, and a first and a second digit sequence stored in the memory, each digit sequence having a respective length, the

subscriber terminal further including a phone book stored in the memory for containing a plurality of telephone numbers, the method comprising:

receiving an abbreviated number entered by a user;

making a determination of whether the abbreviated number entered by the user matches digits at an end of any telephone number contained in the phone book;

if the determination is that the abbreviated number entered by the user matches digits at an end of a telephone number contained in the phone book, initiating a call to the telephone number; and

if the determination is that the abbreviated number entered by the user does not match digits at the end of any telephone number contained in the phone book, (a) determining a length of the abbreviated number entered by the user, (b) using the length of the abbreviated number as a basis to select one of the digit sequences stored in the memory, (c) automatically prepending the selected digit sequence to the abbreviated number entered by the user so as to establish a composite set of digits, and (d) initiating a call to the composite telephone number.

23. (Previously presented) The method of claim 22, wherein selecting one of the digit sequences stored in memory comprises:

if the length of the abbreviated number is 4 digits, then selecting the first digit sequence; and

if the length of the abbreviated number is 5 digits, then selecting the second digit sequence.

24. (Previously presented) A subscriber terminal comprising, in combination:

a processor;

a memory;

a phone book stored in the memory, the phone book defining a plurality of telephone numbers;

at least one digit sequence stored in the memory; and

a translation routine executable by the processor (a) to receive digits entered by a user, (b) to determine whether the digits entered by the user represent an incomplete set of digits, and (c) in response to a determination that the digits entered by the user represent an incomplete set of digits, to (i) determine whether the digits entered by the user match digits at an end of any telephone number defined by the phone book and (ii) in response to a determination that the digits entered by the user do not match digits at an end of any telephone number defined by the phone book, to automatically add one of the at least one digit sequence stored in the memory to the digits entered by the user so as to establish a complete set of digits,

whereby the subscriber terminal may send the complete set of digits into a communications network.



PATENT

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Yat-Sang Hung et al.

Serial No.: 09/702,486

Filed: October 31, 2000

For: Method and Apparatus for Abbreviated
Dialing in a Subscriber Terminal

Group Art Unit 2643

Examiner: Alexander Jamal

Confirmation No. 9822

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Alexandria, Virginia 22313-1450

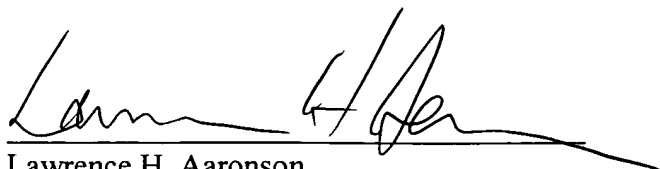
Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached:
 - a. Appeal Brief; and
 - b. Return Receipt Postcard.
2. With respect to additional fees, please charge the amount of \$500.00 to Deposit Account No. 210765 to cover the fee for filing an Appeal Brief.
3. Please charge any additional fees or credit overpayment to Deposit Account No. 210765. A duplicate copy of this sheet is enclosed.
4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on this 6th day of September, 2005.

By :



Lawrence H. Aaronson
Reg. No. 35,818